

List of All Chemicals

P Rheum officinale (Polygonaceae)

Common name(s)

Chinese Rhubarb

How used

Medicinal

*Unless otherwise noted all references are to Duke, James A. 1992. Handbook of phytochemical constituents of GRAS herbs and other economic plants. Boca Raton, FL. CRC Press.

Chemical	Plant Part	Low PPM	High PPM	StdDev	*Reference
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(+)-CATECHIN	Plant	--	--		*
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Activities (30)

ACE-Inhibitor IC50=0.155 mM/l

ACE-Inhibitor 0.24 mg/ml rbt (weak activity)

AntiHIV EC50=4 ug/ml

Antiaggregant IC68=200 ug/ml

Anticoagulant

Anticomplementary 1/2 aspirin

Antiinflammatory IC50=40-943 uM (cf indomethacin IC50=1 uM)

Antimutagenic ID50=50-100 nM

Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.

Antioxidant

Antiperoxidant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiprostaglandin IC50=40-943 uM (cf indomethacin IC50=1 uM)

Antiradicular

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiulcer

Beta-Adrenergic Receptor Blocker 10 uM (weak activity)

Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? Phytochemistry, 44(3): 441-447.

COX-1-Inhibitor IC50=183-279 uM (cf indomethacin IC50=1 uM)

COX-2-Inhibitor IC50=546-5,910 uM (cf indomethacin IC50=1 uM)

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Cardiotonic

Cyclooxygenase-Inhibitor

Cytotoxic TC50=>100 ug/ml

Dermatitigenic

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Hemostat

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Hepatoprotective

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Immunostimulant

Economic & Medicinal Plant Research, 1: 124.

NO-Inhibitor IC11=250 uM

Neuroprotective 1-10 uM

Phagocytotic

Economic & Medicinal Plant Research, 1: 124.

Vasoconstrictor

Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Xanthine-Oxidase-Inhibitor

Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.

cAMP-Phosphodiesterase-Inhibitor

(+)-CATECHIN	Rhizome	--	3628.6	-1.0	*
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Activities (30)

ACE-Inhibitor IC50=0.155 mM/l

ACE-Inhibitor 0.24 mg/ml rbt (weak activity)

AntiHIV EC50=4 ug/ml

Antiaggregant IC68=200 ug/ml

Anticoagulant

Anticomplementary 1/2 aspirin

indomethacin IC50=1 uM)

Antimutagenic ID50=50-100 nM

Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.

Antioxidant

Antiperoxidant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

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Antiradicular

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

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Beta-Adrenergic Receptor Blocker 10 uM (weak activity)

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Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Cardiotonic

Cyclooxygenase-Inhibitor

Cytotoxic TC50=>100 ug/ml

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Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Hemostat

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Hepatoprotective

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Immunostimulant

Economic & Medicinal Plant Research, 1: 124.

NO-Inhibitor IC11=250 uM

Neuroprotective 1-10 uM

Phagocytotic

Economic & Medicinal Plant Research, 1: 124.

Vasoconstrictor

Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Xanthine-Oxidase-Inhibitor

Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.

cAMP-Phosphodiesterase-Inhibitor

(-)-EPICATECHIN

Rhizome --

3437.5

*

Activities (38)

5-Lipoxygenase-Inhibitor IC50=22-50 uM/l

ACE-Inhibitor IC50=0.216 mM/l

ACE-Inhibitor 0.5 mg/ml rbt (weak activity)

Allelochemic

Hanke, F. J., Natural Products as a Resource for Biologically Active Compounds, Thesis, U. Cal (Santa Cruz), 1986, 252 pp

AntiEBV

Economic & Medicinal Plant Research, 6: 189.

AntiHIV EC50=2 ug/ml

Antiagregant

Antianaphylactic

Antibacterial

Antidiabetic 30 mg/kg rat

Antihepatic

Vlietinck, A.J. and Dommissie, R.A. eds. 1985. Advances in Medicinal Plant Research. Wiss. Verlag. Stuttgart.

Antihyperglycemic

Antiinflammatory

Antileukemic

Economic & Medicinal Plant Research, 6: 189.

Antileukotriene

Antilipoperoxidant

Antimutagenic

Antioxidant IC50=6.3 ug/ml

Antiperoxidant

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

Antiviral EC50=2 ug/ml

Beta-Adrenergic Receptor Blocker 10 uM

Zhu, M., Phillipson, J. D., Greengrass, P. M., Bowery, N. E., Cai, Y. 1997. Plant Polyphenols: Biologically Active Compounds or Non-Selective Binders to Protein? Phytochemistry, 44(3): 441-447.

COMP-Inhibitor

Dullo, A. G., et al. 1999. Efficacy of a green tea extract rich in catechin polyphenols and caffeine in increasing 24-h energy expenditure and fat oxidation in humans. Am. J. Clinical Nutrition, 70: 1040-1045.

Cancer-Preventive

Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.

Cardiotonic

Choline-Sparing

Cytotoxic TC50=>100 ug/ml

Hypocholesterolemic

Hypoglycemic

Insulinogenic	Economic & Medicinal Plant Research, 6: 170.
Lipoxygenase-1-Inhibitor IC50=60 mM	
Lipoxygenase-Inhibitor IC50=140 uM	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Lipoxygenase-Inhibitor IC97=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Pancreatogenic	
Pesticide	
Reverse-Transcriptase-Inhibitor 10 ng/ml	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
Vasodilator uM	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.
Xanthine-Oxidase-Inhibitor IC50=>40	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. Chem. Pharm. Bull. 38(5): 1224-1229

1,2,6-TRI-O-GALLOYL-GLUCOSE	Rhizome	--	365.7	*
1,8,6-TRIHIDROXY-3-METHYLANTHRAQUINONE	Plant	--	--	*
1,8-DIHYDROXY-3-CARBOXYANTHRAQUINONE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1,8-DIHYDROXY-3-HYDROXYMETHYLANTRHAQUINONE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1,8-DIHYDROXY-3-METHYLANTHRAQUINONE	Plant	--	--	*
1,8-DIHYDROXY-6-METHOXY-3-METHYLANTHRAQUINONE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1-O-GALLOYL-GLYCEROL	Plant	--	--	*
3,3'-DI-O-GALLOYLPROCYANIDIN-B-2	Rhizome	--	1514.3	*
3-O-GALLOYL-PROCYANIDIN-B-1	Rhizome	--	771.4	*
6-O-GALLOYL-GLUCOSE	Plant	--	--	*
ALOE-EMODIN	Bulb	--	--	*

Activities (24)

Antibacterial MIC=2-64 ug/ml	
Antiherpetic	
Antileukemic	
Antisalmonella	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiseptic MIC=2-64 ug/ml	
Antistaphylococcic MIC=2-64 ug/ml	
Antitumor 1 ug/mL	
Antiviral	
Arylamine-N-Acetyltransferase-Inhibitor	
Calcium-Antagonist (strong activity)	
Candidicide MIC=25-250 ug/ml	
Cathartic	Merck 11th Edition
Cytotoxic 20 ppm	
Estrogenic	
Fungicide MIC=25-250 ug/ml	
Genotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	
Mutagenic	
Pesticide	
Purgative ED50=>59.6 mg/kg orl mus	
Termitifuge	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Topoisomerase-II-Inhibitor 1 mM	Muller, S. O., Eckert, I., Lutz, W. K., Stopper, H. 1996. Genotoxicity of the Laxative Drug Components Emodin, Aloe-emodin and Danthron in Mammalian Cells: Topoisomerase II Mediated? Mutat Res, 371: 165-173.
Topoisomerase-II-Inhibitor IC50=741 uM/ml	Mueller, S. O., Stopper, H. 1999. Characterization of the Genotoxicity of Anthraquinones in Mammalian Cells. Biochimica & Biophysica Acta, 1428: 406-414.
Tuberculostatic	Pakistan Encyclopedia Planta Medica. 1986.

Activities (24)

Antibacterial MIC=2-64 ug/ml	
Antiherpetic	
Antileukemic	
Antisalmonella	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Antiseptic MIC=2-64 ug/ml	
Antistaphylococcic MIC=2-64 ug/ml	
Antitumor 1 ug/mL	
Antiviral	
Arylamine-N-Acetyltransferase-Inhibitor	
Calcium-Antagonist (strong activity)	
Candidicide MIC=25-250 ug/ml	
Cathartic	Merck 11th Edition
Cytotoxic 20 ppm	
Estrogenic	
Fungicide MIC=25-250 ug/ml	
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Mutagenic	
Pesticide	
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Tuberculostatic	Pakistan Encyclopedia Planta Medica. 1986.

ALOE-EMODIN

Rhizome -- -- *

Activities (24)

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Antileukemic	
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Antiseptic MIC=2-64 ug/ml	
Antistaphylococcic MIC=2-64 ug/ml	
Antitumor 1 ug/mL	
Antiviral	
Arylamine-N-Acetyltransferase-Inhibitor	
Calcium-Antagonist (strong activity)	
Candidicide MIC=25-250 ug/ml	
Cathartic	Merck 11th Edition
Cytotoxic 20 ppm	
Estrogenic	
Fungicide MIC=25-250 ug/ml	
Genotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	
Mutagenic	
Pesticide	
Purgative ED50=>59.6 mg/kg orl mus	
Termitifuge	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Topoisomerase-II-Inhibitor 1 mM	Muller, S. O., Eckert, I., Lutz, W. K., Stopper, H. 1996. Genotoxicity of the Laxative Drug Components Emodin, Aloe-emodin and Danthron in Mammalian Cells: Topoisomerase II Mediated? Mutat Res, 371: 165-173.
Topoisomerase-II-Inhibitor IC50=741 uM/ml	Mueller, S. O., Stopper, H. 1999. Characterization of the Genotoxicity of Anthraquinones in Mammalian Cells. Biochimica & Biophysica Acta, 1428: 406-414.
Tuberculostatic	Pakistan Encyclopedia Planta Medica. 1986.

Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.
Allergenic	
Analgesic	
AntiHIV EC50=200 ug/ml	
AntiLegionella	
Antiadenoviral	Economic & Medicinal Plant Research, 5: 207.
Antiaggregant	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Antiaging	
Antiatherogenic	
Antibacterial	
Anticancer	
Anticarcinogenic	Economic & Medicinal Plant Research, 6: 189.
Antidepressant	
Antiedemic	Economic & Medicinal Plant Research, 6: 189.
Antielastase IC50=93 um/l	
Antielastase IC50=86 ug/ml (475 uM)	
Antiescherichic	
Antiflu	Economic & Medicinal Plant Research, 5: 207.
Antigonadotropic	Jim Duke's personal files.
Antihemolytic 25 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antihepatoadenomic 200 ppm diet orl mus	
Antihepatotoxic	
Antiherpetic 50 ug/ml	
Antiherpetic EC50=>50 ug/ml	
Antihistaminic	
Antihypercholesterolemic	Economic & Medicinal Plant Research, 6: 189.
Antihyperthyroid	
Antiinflammatory	
Antileukemic	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antileukotriene	
Antimelanogenic	
Antimutagenic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antinitrosaminic	Ki Soon Rhee. <i>Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health</i> , Ch.18.
Antiophidic	
Antioxidant 50 uM	
Antioxidant IC57=30 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 30 mM	
Antioxidant 1.3 x Vit. E	
Antioxidant 1/2 BHA	
Antiperoxidant IC50=44 uM	<i>Planta Medica</i> , 57: A54, 1991.
Antiperoxidant IC35=200 ug/ml	
Antiperoxidant IC85=100 ug/ml	
Antiproliferant	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antiprostaglandin	
Antiradicular 10 uM	Ohnishi, M., Morishita, H., Iwahashi, H., Toda, S., Shirataki, Y., Kimura, M., and Kido, R. 1993. Inhibitory Effects of Chlorogenic Acids on Linoleic Acid Peroxidation and Haemolysis. <i>Phytochemistry</i> . 36(3): 579-583. 1994.
Antiradicular 1/3 quercetin	
Antiradicular 30 mM	
Antiradicular IC50=32-35 uM	
Antiseptic	
Antispasmodic EC50=3.4-15 uM	<i>Phytotherapy Research</i> , 4: 73.
Antistaphylococcic	
Antistomatitic	Economic & Medicinal Plant Research, 5: 207.
Antisunburn	
Antithiamin	<i>Phenolic Compounds in Food and Their Effects on Health</i> , 69.
Antithyroid	Jim Duke's personal files.
Antitumor 200 ppm diet orl mus	
Antitumor (Skin)	
Antitumor-Promoter IC42=10 uM	<i>Cancer Research</i> , 48: 5941.
Antiulcerogenic	
Antivaccinia	Economic & Medicinal Plant Research, 5: 207.
Antiviral IC50=62.5 ug/ml	

CNS-Active	Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
COX-2-Inhibitor IC32=100 uM	
Calcium-Antagonist IC50=1.2 uM rbt	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Carcinogenic 2% (diet)	
Chemopreventive	
Cholagogue	Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Choleretic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Clastogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Co-carcinogenic	
Collagen-Sparing	
Cytoprotective	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
Cytotoxic TC50=200 ug/ml	
DNA-Active	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
DNA-Protective	
Diuretic	Wichtl, M. 1984. Teedrogen. Ein Handbuch für Apotheker und Ärzte. Wissenschaftliche Verlagsgesellschaft. mbH Stuttgart. 393 pp.
Fungicide MIC=0.4 mg/ml	
Hepatocarcinogenic 400 ppm diet orl mus (in the absence of alcohol)	
Hepatoprotective	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 210.
Hepatotropic	
Histamine-Inhibitor	
Immunostimulant	
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in Achillea millefolium L. (Asteraceae). Economic Botany 48(2): 111-120, 1994.
Leukotriene-Inhibitor	
Lipoxygenase-Inhibitor IC27=5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Lipoxygenase-Inhibitor IC50=62-148 uM	
Lyase-Inhibitor IC50=94-164 uM	
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Pesticide	
Prooxidant	
Prostaglandigenic	
Sedative 500 mg	
Sunscreen IC50=2.5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC91=5 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Sunscreen IC98=25 mg/l	Lazarova*, G., Kostova, I., Neychev, H. 1992. Photodynamic damage prevention by some hydroxycoumarins. Fitoterapia 64(2): 134-136, 1993.
Tumorigenic	Jim Duke's personal files.
Vulnerary	
Xanthine-Oxidase-Inhibitor IC50=39.21 uM	Mills, Simon and Bone, Kerry. 2000. Phytotherapy. Churchill Livinston, Edinburgh.

CALCIUM-OXALATE Root -- 60000.0 2.44 *

Activities (4)

- Emetic
- Inflammatory
- Laxative
- Lithogenic

CATECHIN-TANNINS Root -- -- Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

CHRYSAPHANOL Root -- -- *

CHRYSOPHANIC-ACID Rhizome -- -- *

Activities (6)

- Antispasmodic
- Calcium-Antagonist
- Fungicide

Occulirritant Pesticide	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.
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CHRYSOPHANIC-ACID	Bulb	--	--	*
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Activities (6)	
Antispasmodic	
Calcium-Antagonist	
Fungicide	
Keratitigenic	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.
Occulirritant	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.
Pesticide	

CHRYSOPHANIC-ACID	Root	--	--	*
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Activities (6)	
Antispasmodic	
Calcium-Antagonist	
Fungicide	
Keratitigenic	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.
Occulirritant	Mitchell, J. and Rook, A.J. 1923. Botanical Dermatology: plants and plant products injurious to the skin. Vancouver: Greengrass, 1979. xiii, 787 p.: ill.
Pesticide	

CHRYSOPHANOL	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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Activities (10)	
Antibacterial	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.
Antiseptic	
Calcium-Antagonist 5/6 aloeemodin	
Candidicide	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.
Cathartic	
Hemostat	
Pesticide	
Pigment	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Purgative ED50=>500 mg/kg orl mus	
Termitifuge	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

CHRYSOPHANOL-1-MONO-BETA-D-GLUCOSIDE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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CHRYSOPHANOL-1-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	*
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CHRYSOPHANOL-8-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	*
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CINNAMIC-ACID	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
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Activities (18)	
Aldose-Reductase-Inhibitor 4 ug/ml (weak activity)	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. Sankyo Kenkyusho Nempo, 43: 99-110.
Allergenic	
Anesthetic	
Antibacterial	Martindale's 28th
Antiinflammatory	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antispasmodic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic	
Dermatitigenic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
FLavor FEMA 4-40	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Fungicide	
Herbicide	
Laxative	

Pesticide
 Tyrosinase-Inhibitor ID50=700 uM
 Vermifuge

D-CATECHIN Root -- -- Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities (4)

Anticoagulant
 Cancer-Preventive Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
 Cardi tonic
 Vasoconstrictor Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

D-CATECHOL Root -- -- Chemical Constituents of Oriental Herbs (3 diff. books)

D-EPICATECHIN-GALLATE Root -- -- Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

DIISOBUTYL-PHTHALATE Root -- -- Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

EMODIN Rhizome -- -- *

Activities (58)

AGEs-Inhibitor IC50=118 uM
 Aldose-Reductase-Inhibitor IC50=15.9 uM
 Allergenic Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
 AntiMRSA MIC 2-64 ug/ml
 Antiaggregant
 Antiangiogenic
 Antibacterial
 Anticytomegalovirus ED50=1.1 ug/ml
 Antifeedant Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
 Antiinflammatory 15 mg/kg
 Antileukemic Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
 Antilymphomic
 Antimutagenic
 Antineoplastic
 Antiplatelet ED50=1.1 ug/ml
 Antiproliferant IC50=20-30 uM
 Antisarcotic
 Antiseptic
 Antispasmodic Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
 Antisprout
 Antitumor (Breast)
 Antiulcer 15 mg/kg
 Antivaginitic Tillotson, A. K. (with Abel, Jr., R., Tillotson, N.H., Bajracharya, V.M.B.). 2001. The One Earth Herbal Sourcebook: Everything You Need to Know about Chinese, Western, and Ayurvedic Herbal Treatments. Twin Streams, Kensington Publishing Corp. NY,NY. 596 pp
 Antiviral ED50=1.1 ug/ml
 Antiviral EC50=1.1
 CNS-Depressant 15 mg/kg ipr mus
 COX-2-Inhibitor
 Cathartic Merck 11th Edition
 Collagenase-Inhibitor IC50=40 uM
 Cytotoxic CD50=2.6 ug/ml
 Differentiator IC50=20-30 uM
 Estrogenic
 Genotoxic
 Gonadotropic
 Hypolipidemic
 Immunostimulant
 Immunosuppressant
 Leucocytogenic

Cathartic Merck 11th Edition

Collagenase-Inhibitor
IC50=40 uM

Cytotoxic CD50=2.6 ug/ml

Differentiator IC50=20-30
uM

Estrogenic

Genotoxic

Gonadotropic

Hypolipidemic

Immunostimulant

Immunosuppressant

Leucocytogenic

MMP-2-Inhibitor

MMP-7-Inhibitor

MMP-9-Inhibitor

Mutagenic

NO-Inhibitor IC50=60.7 uM

PGE2-Inhibitor

PTK-Inhibitor 10-100 uM

PTK-Inhibitor IC50=19-37
uM

Pesticide

Prostaglandin-Synthesis-Inhibitor IC50=23 uM/ml
Mueller, S. O., Stopper, H. 1999. Characterization of the Genotoxicity of Anthraquinones in Mammalian Cells. *Biochimica & Biophysica Acta*, 1428: 406-414.

Protein-Kinase-C-Inhibitor
IC50=25 uM

Purgative ED50=>500
mg/kg orl mus

Styptic

Topoisomerase-II-Inhibitor
1 mM
Muller, S. O., Eckert, I., Lutz, W. K., Stopper, H. 1996. Genotoxicity of the Laxative Drug Components Emodin, Aloe-emodin and Danthron in Mammalian Cells: Topoisomerase II Mediated? *Mutat Res*, 371: 165-173.

Topoisomerase-II-Inhibitor
IC50=7 uM/ml
Mueller, S. O., Stopper, H. 1999. Characterization of the Genotoxicity of Anthraquinones in Mammalian Cells. *Biochimica & Biophysica Acta*, 1428: 406-414.

Trichomonicide

Tyrosine-Kinase-Inhibitor

Vasodilator

Vasorelaxant

iNOS-Inhibitor

EMODIN-1-MONO-BETA-D-GLUCOSIDE?	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
EMODIN-6-MONOGLUCOSIDE	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
EMODIN-8-MONO-BETA-D-GLUCOSIDE?	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
EMODIN-8-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	*
FERULIC-ACID	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities (61)

Allelopathic	Holappa, L.D., and Blum*, U. 1991. Effects of Exogenously Applied Ferulic Acid, a Potential Allelopathic Compound, on Leaf Growth, Water Utilization, and Endogenous Abscisic Acid Levels of Tomato, Cucumber, and Bean. <i>J. of Chemical Ecology</i> , 17(5): 865.
Analgesic	Advance in Chinese Medicinal Materials Research. 1985. Eds. H. M. Chang, H. W. Yeung, W. -W. Tso and A. Koo. World Scientific Publishing Co., Philadelphia Pa., page 69.
Antiaggregant	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. <i>Chem. Pharm. Bull.</i> 38(6): 1620-1623, 1990.
Antiallergic	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antiarrhythmic	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Anticancer (Colon)	
Anticancer (Forestomach)	
Anticancer (Liver)	
Anticancer (Skin)	
Anticarcinogenic	
Antidysmenorrhic	
Antiestrogenic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antihepatotoxic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.

Antiinflammatory	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Antileukemic IC50=25-56 ug/ml	Chiang, L. C., Chiang, W., Chang, M. Y., Ng, L. T., Lin, C. C. 2003. Antileukemic activity of selected natural products in Taiwan. <i>Am J Chin Med</i> , 31(1):37-46.
Antimitotic	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antimutagenic	Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antineoplastic (Stomach)	
Antinitrosaminic	Ki Soon Rhee. Oilseed Food Ingredients Used To Minimize Oxidative Flavor Deterioration in Meat Products. Phenolic Compounds in Food and Their Effects on Health, Ch.18.
Antioxidant 3,000 uM	
Antioxidant IC51=200 ppm	
Antioxidant 1/3 quercetin	
Antioxidant 1/2 BHA	
Antioxidant EC50=9-15 ug/ml	
Antiradicular EC50=9-15 ug/ml	
Antiradicular IC50=116-124 uM	
Antiserotonin	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antispasmodic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antithrombic	Leung, A. Y. and Foster, S. 1995. <i>Encyclopedia of Common Natural Ingredients</i> 2nd Ed. John Wiley & Sons, New York. 649 pp.
Antitumor	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Antitumor (Colon)	
Antitumor (Forestomach)	
Antitumor (Liver)	
Antitumor (Skin)	
Antitumor-Promoter IC46=10 uM	Cancer Research, 48: 5941.
Antiviral	Vlietinck, A.J. and Domisse, R.A. eds. 1985. <i>Advances in Medicinal Plant Research.</i> Wiss. Verlag. Stuttgart.
Arteriodilator	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. <i>Chem. Pharm. Bull.</i> 38(6): 1620-1623, 1990.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Cardiac	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. <i>Chem. Pharm. Bull.</i> 38(6): 1620-1623, 1990.
Cholagogue	<i>Pharmazie</i> , 46: 156, 1991.
Choleretic	Williamson, E. M. and Evans, F. J., <i>Potter's New Cyclopaedia of Botanical Drugs and Preparations</i> , Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Fungicide	Nigg, H.N. and Seigler, D.S., eds. 1992. <i>Phytochemical Resources for Medicine and Agriculture.</i> Plenum Press, New York. 445 pp.
Hepatoprotective	Mills, Simon and Bone, Kerry. 2000. <i>Phytotherapy.</i> Churchill Livingstone, Edinburgh.
Hepatotropic	
Herbicide	<i>Angewandte Botanik</i> 68(5/6)=1994. Page 195.
Hydrocholeric	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.</i> Taylor & Frost, London. 791 pp.
Hypolipidemic	
Immunostimulant	<i>Economic & Medicinal Plant Research</i> , 1: 124.
Insectifuge	Tunon, H., Thorsell, W., and Bohlin, L. 1993. Mosquito Repelling Activity of Compounds Occurring in <i>Achillea millefolium</i> L. (Asteraceae). <i>Economic Botany</i> 48(2): 111-120, 1994.
Metal-Chelator	McEvily, A.J., Iyengar, R., and Gross, A.T. Inhibition of Polyphenol Oxidase by Phenolic Compounds. Phenolic Compounds in Food and Their Effects on Health, Ch.25.
Ornithine-Decarboxylase-Inhibitor	Hagerman, A.E. Tannin-Protein Interactions. Phenolic Compounds in Food and Their Effects on Health, Ch.19.
Pesticide	
Phagocytotic	
Preservative	Merck 11th Edition
Prostaglandinogenic	
Prostaglandin-Synthesis-Inhibitor 0.58-3.2 mM	Xu, L. N., Yu, W. G., Tian, J. Y., Liu, Q. Y. 1990. Effect of Sodium Ferulate on Arachidonic Acid Metabolism. <i>Yao Hsueh Hsueh Pao</i> , 25(6): 412-416.
Sunscreen	<i>Chemical Marketing Reporter</i> ; a weekly tabloid, 9/10/92.
Uterosedative 30-100 mg/kg ivn rat	Ozaki, Y. and Ma, J-P. 1989. Inhibitory Effects of Tetramethylpyrazine and Ferulic Acid on Spontaneous Movement of Rat Uterus in Situ. <i>Chem. Pharm. Bull.</i> 38(6): 1620-1623, 1990.

FRANGULIC-ACID	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
FRUCTOSE	Root	--	--	Leung, A.Y., <i>Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics</i> , John Wiley & Sons, New York, 1980.

Activities (8)

Antialcoholic Jeffery B. Harborne and H. Baxter, eds. 1983. *Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants.* Taylor & Frost, London.

Antidiabetic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antihangover	
Antiketotic	Merck 11th Edition
Antinauseant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Laxative	
Neoplastic	CRC Handbook of Medicinal Herbs and/or CRC Handbook of Proximate Analyses
Sweetener 2 x glucose	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

GALLIC-ACID Rhizome -- 25.7 *

Act iv it ies (62)

ACE-Inhibitor IC50=7.7 mM/l	
Analgesic	
AntiHIV	
AntiMRSA	
Antiadenovirus	Economic & Medicinal Plant Research, 5: 194.
Antiallergenic	Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.
Antianaphylactic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Antiangiogenic	
Antiasthmatic	Watt, J.M., and Breyer-Brandwijk, M.G. The Medicinal and Poisonous Plants of Southern and Eastern Africa. 1962.
Antibacterial MIC=1,000 ug/ml	
Antibronchitic	Dorsch, W., Wagner, H. New Antiasthmatic Drugs from Traditional Medicine? Int Arch Allergy Appl Immunol 94: 262-265, 1991.
Anticancer	
Anticarcinomic ED50=3	
Antiescherichic	
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antiflu	Economic & Medicinal Plant Research, 5: 194.
Antihepatotoxic	Okuda, T., Yoshida, T., and Hatano, T. Antioxidant Effects of Tannins and Related Polyphenols. Phenolic Compounds in Food and Their Effects on Health, Ch.7 p.93.
Antiherpetic EC50=>10 ug/ml	
Antiinflammatory	Kroes, B.H., et al. 1991. Anti-Inflammatory Activity of Gallic Acid. Planta Medica, 58(6): 499.
Antileishmanic EC50=4.4 ug/ml	
Antimutagenic	Economic & Medicinal Plant Research, 6: 235.
Antinitrosaminic	
Antioxidant IC44=33 ppm	
Antioxidant 7 x quercetin	
Antioxidant 2/3 BHA	
Antiperiodontitic 10 ug/ml	
Antiperoxidant IC50=69 uM	
Antipolio	Economic & Medicinal Plant Research, 5: 194.
Antiproteolytic 10 ug/ml	
Antiradicular 7 x quercetin	
Antiradicular IC50=4.9 uM	
Antiseptic	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Antistaphylococcic MIC=1,000 ug/ml	
Antitumor	
Antitumor-Promoter	
Antiviral	
Apoptotic	
Astringent	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
Bacteristat	Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. Phytotherapy Research 4(5): 198.
Bronchodilator	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Candidicide	
Carcinogenic	
Choleretic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

MIC=1,000 ug/ml				
Antitumor				
Antitumor-Promoter				
Antiviral				
Apoptotic				
Astringent	Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.			
Bacteristat	Lamikanra, A., Ogundaini, A.O., and Ogungbamila*, F.O. Antibacterial Constituents of Alchornea cordifolia Leaves. Phytotherapy Research 4(5): 198.			
Bronchodilator	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Candidicide				
Carcinogenic				
Choleretic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Cyclooxygenase-Inhibitor				
Cytotoxic 500 uM				
Floral-Inhibitor	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Gram(+)-icide MIC=1,000 ug/ml				
Gram(-)-icide MIC=1,000 ug/ml				
Hemostat				
Hepatoprotective	Neuwinger, H. D. 1996. African Ethnobotany - Poisons and Drugs. Chapman & Hall, New York. 941 pp.			
Immunomodulator				
Immunostimulant	McKenna, D. J., Hughes, K., and Jones, K. 2000. Green Tea Monograph. Alternative Therapies, 6(3): 61-82.			
Immunosuppressant				
Insulin-Sparing	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Myorelaxant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
NO-Inhibitor IC-26=250 uM				
Nephrotoxic	Martindale's 29th			
Pesticide				
Styptic				
Topoisomerase-I-Inhibitor	Hamada, S. I., Kataoka, T., Woo, J. T., Yamada, A., Yoshida, T., Nishimura, T., Otake, N., Nagai, K. 1997. Immunosuppressive Effects by Gallic Acid and Chebulagic Acid on CTL-Mediated Cytotoxicity. Biol Pharm Bull, 20: 1017-1019.			
Xanthine-Oxidase-Inhibitor IC50=24 uM	Hatano, T., Yasuhara, T., Yoshihara, R., Agata, I., Noro, T., and Okuda, T. 1989. Effects of Interaction of Tannins with Co-existing Substances.VII. Inhibitory Effects of Tannins Related Polyphenols on Xanthine Oxidase. Chem. Pharm. Bull. 38(5): 1224-1229			

GALLIC-ACID-3-O-BETA-D-(6'-O-GALLOYL)-GLUCOPYRANOSIDE	Plant	--	--	*
GALLIC-ACID-4-O-BETA-D-(6'-O-GALLOYL)-GLUCOPYRANOSIDE	Plant	--	--	*
GLUCOGALLIN	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
GLUCOSE	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities (7)

Acetylcholinergic				
Antiedemic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Antihepatotoxic	Merck 11th Edition			
Antiketotic	Merck 11th Edition			
Antivaricose	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Hyperglycemic	Merck 11th Edition			
Memory-Enhancer	Science News, 138: 189, 1990.			

ISOLINDLEYIN	Plant	--	--	*
LINDLEYIN	Rhizome	--	1345.7	*

Activities (3)

Analgesic				
Antiarthritic				
Antiinflammatory				

OLEIC-ACID	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
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5-Alpha-Reductase-Inhibitor	
Allergenic	
Alpha-Reductase-Inhibitor	
Anemiagenic	
Antialopecic	
Antiandrogenic	
Antiinflammatory IC50=21 uM	
Antileukotriene-D4 IC50=21 uM	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Choleretic 5 ml/man	
Dermatitigenic	
FLavor FEMA 1-30	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Hypocholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Insectifuge	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Irritant	Merck 11th Edition
Percutaneostimulant	Seki, T., Toeda, C., Kawaguchi, T., Juni, K., Sugibayashi, K., and Morimoto, Y. 1990. Enhanced Transdermal Delivery of Zidovudine in Rats and Human Skin. Chem. Pharm. Bull. 38(11): 3086-3089, 1990.
Perfumery	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Propeic	

OXALIC-ACID Rhizome -- -- *

Activities (9)

Acaricide	
Antiseptic	
CNS-Paralytic	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Fatal	Martindale's 29th
Hemostatic	Merck 11th Edition
Irritant	
Pesticide	
Renotoxic	Merck 11th Edition
Varroacide	

PALMIDIC-B Plant -- -- Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

PALMIDIN-C Plant -- -- Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.

PALMITIC-ACID Root -- -- Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.

Activities (13)

5-Alpha-Reductase-Inhibitor	
Antialopecic	
Antiandrogenic	
Antifibrinolytic	Economic & Medicinal Plant Research, 1: 53.
Antioxidant IC40=60	
FLavor FEMA 1	Aloe Research Council - Duke writeup of non-peer reviewd book by Coats and draft by Henry
Hemolytic	Bisset, N.G., ed. 1994. Herbal Drugs and Phytopharmaceuticals. CRC Press. Boca Raton, FL. 566 pp.
Hypercholesterolemic	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
Lubricant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Nematicide	Nigg, H.N. and Seigler, D.S., eds. 1992. Phytochemical Resources for Medicine and Agriculture. Plenum Press, New York. 445 pp.
Pesticide	
Propeic	
Soap	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

PARIETIN Root -- -- Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

PECTIN Root -- -- List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.

Activities (24)

Antiatheromic 15 g/man/day	Cerda, JJ. Pectin in Health and Disease. HortScience, 25(12): 1485, 1990.
Antibacterial	

Antidiarrheic	Merck 11th Edition			
Antienteritic				
Antigallstone				
Antigastritic				
Antilithic				
Antimetastatic				
Antimutagenic				
Antiobesity	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.			
Antitumor (Colon)				
Antitumor (Prostate)				
Antitussive				
Antiulcer				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			
Chemopreventive				
Demulcent				
Fungicide	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.			
Hemostat				
Hypocholesterolemic				
Hypoglycemic	Joseph, J., Nadeau, D. and Underwood, A. 2001. The Color Code. Hyperion, NY.			
Peristaltic				
Pesticide				

PHENYL-PROPIONIC-ACID	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
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Activities (1)				
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.			

PHYSICION	Root	--	--	*
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Activities (5)				
Antiseptic				
Calcium-Antagonist 5/6 aloeeomodn				
Cathartic				
Pesticide				
Purgative ED50=>500 mg/kg orl mus				

PHYSICION	Rhizome	--	--	*
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Activities (5)				
Antiseptic				
Calcium-Antagonist 5/6 aloeeomodn				
Cathartic				
Pesticide				
Purgative ED50=>500 mg/kg orl mus				

PHYSICION	Bulb	--	--	*
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Activities (5)				
Antiseptic				
Calcium-Antagonist 5/6 aloeeomodn				
Cathartic				
Pesticide				
Purgative ED50=>500 mg/kg orl mus				

PHYSICION-1-MONO-BETA-D-GLUCOSIDE?	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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PHYSICION-8-MONO-BETA-D-GLUCOSIDE?	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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PHYSICION-8-O-BETA-D-GENTIOBIOSIDE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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PHYTOSTEROLS	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
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Activities (2)				
Antiprostatic				

PICEATANNOL	Plant	--	--	*
Activities (8)				
Allelopathic				
Antileukemic	Singla*, A.K. Pathak, K. 1989. Phytoconstituents of Euphorbia species. Fitoterapia 61(6): 483-508, 1990.			
Antioxidant				
Artemicide				
Fungicide				
Pesticide				
Phytoalexin				
Piscicide				
PICEATANNOL-4'-O-(6"-O-GALLOYL)-BETA-D-GLUCOPYRANOSIDE	Plant	--	8333.3	*
PICEATANNOL-4'-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	33333.3	*
REIDIN-C	Plant	--	--	Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
RESIN	Root	--	--	Leung, A.Y., Encyclopedia of Common Natural Ingredients Used in Food, Drugs, and Cosmetics, John Wiley & Sons, New York, 1980.
RESVERATROL-4'-O-(6"-O-GALLOYL)-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	*
RESVERATROL-4'-O-BETA-D-GLUCOPYRANOSIDE	Plant	--	--	*
RHAMNOXANTHIN	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
RHAPONTICIN	Root	--	--	*
Activities (1)				
Estrogenic	ANON. 1948-1976. The Wealth of India raw materials. Publications and Information Directorate, CSIR, New Delhi. 11 volumes.			
RHATANNIN	Rhizome	--	28571.4	*
RHATANNIN	Root	--	--	*
RHEIN	Rhizome	--	--	*
Activities (18)				
Antibacterial	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.			
Anticarcinomic				
Anticariogenic				
Anticytomegalovirus ED50=1.1 ug/ml				
Antineoplastic				
Antiplatelet ED50=0.6 ug/ml				
Antiseptic				
Antitumor				
Antiviral EC50=1.1				
Antiviral ED50=0.61 ug/ml				
Calcium-Antagonist 9/10 aloeemodin				
Candidicide	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.			
Cathartic				
Cytotoxic CD50=3.4 ug/ml				
Fungicide	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.			
Pesticide				
Proteinase-Inhibitor				
Purgative ED50=97.5 mg/kg orl mus				
RHEIN	Plant	--	--	*
Activities (18)				
Antibacterial	Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.			
Anticarcinomic				

Anticytomegalovirus ED50=1.1 ug/ml
 Antineoplastic
 Antiplaque ED50=0.6 ug/ml
 Antiseptic
 Antitumor
 Antiviral EC50=1.1
 Antiviral ED50=0.61 ug/ml
 Calcium-Antagonist 9/10 aloe emodin
 Candidicide
 Cathartic
 Cytotoxic CD50=3.4 ug/ml
 Fungicide
 Pesticide
 Proteinase-Inhibitor
 Purgative ED50=97.5 mg/kg orl mus

Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

RHEIN Root -- 27.0 -1.0 *

Activities (18)

Antibacterial
 Anticarcinomic
 Anticariogenic
 Anticytomegalovirus ED50=1.1 ug/ml
 Antineoplastic
 Antiplaque ED50=0.6 ug/ml
 Antiseptic
 Antitumor
 Antiviral EC50=1.1
 Antiviral ED50=0.61 ug/ml
 Calcium-Antagonist 9/10 aloe emodin
 Candidicide
 Cathartic
 Cytotoxic CD50=3.4 ug/ml
 Fungicide
 Pesticide
 Proteinase-Inhibitor
 Purgative ED50=97.5 mg/kg orl mus

Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.

Recently became Internat. J. Crude Drug Res. 28(1,2,3,4):1990, page 155.

Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.

RHEIN-8-MONOGLUCOSIDE	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
RHEINOSIDE-A	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
RHEINOSIDE-A	Rhizome	--	19971.8	*
RHEINOSIDE-B	Rhizome	--	5126.8	*
RHEINOSIDE-B	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
RHEINOSIDE-C	Rhizome	--	3718.3	*
RHEINOSIDE-C	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
RHEINOSIDE-D	Rhizome	--	6422.5	*
RHEINOSIDE-D	Root	--	--	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
RHEINOSIDES	Root	--	12900.0	*
RHEUM-EMODIN	Root	--	--	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
RUTIN	Plant	--	13000.0	-0.49 *

Activities (87)

Aldehyde-Oxidase-Inhibitor IC27-52=10 uM	
Aldose-Reductase-Inhibitor 100 uM	
Aldose-Reductase-Inhibitor 4 ug/ml	Ichikawa, K., et al. 1991. Isolation and Structure Determination of Aldose Reductase Inhibitors from Traditional Thai Medicine, and Syntheses of Their Derivatives. <i>Sankyo Kenkyusho Nempo</i> , 43: 99-110.
Allelochemic	
AntiCVI 270 mg/man/day	
Antiaggre gant ED50=33 nmol/kg iv	
Antiallergic	
Antiapoplectic	
Antiatherogenic	
Antiatherosclerotic	
Antibacterial	Jeffery B. Harborne and H. Baxter, eds. 1983. <i>Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants</i> . Taylor & Frost, London. 791 pp.
Anticancer	
Anticapillary-Fragility 20-100 mg orl man	Merck 7th Ed.
Anticataract	
Anticlastogen	
Anticonvulsant	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Antidementia	Bruneton, J. 1999. <i>Pharmacognosy, Phytochemistry, Medicinal Plants</i> . 2nd Ed. Lavoisier Publishing, Paris. 1119 pp.
Antidermatitic	Bisset, N.G., ed. 1994. <i>Herbal Drugs and Phytopharmaceuticals</i> . CRC Press. Boca Raton, FL. 566 pp.
Antidiabetic	Jin, G-Z., Yamagata, Y., and Tomita, K.-i. 1989. Structure of Rutin Pentamethanol. <i>Chem. Pharm. Bull.</i> 38(2): 297-300, 1990.
Antiedemic 270 mg/day orl man	
Antierhythmic	
Antifeedant	
Antiglaucomic 60 mg/day	Werbach, M. 1993. <i>Healing with Food</i> . Harper Collins, New York, 443 pp.
Antihematuric	
Antihemorrhoidal	
Antihepatotoxic	Keeler, R.F. and Tu, A.T. eds. 1991. <i>Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6)</i> Marcel Dekker, Inc. NY. 665 pp.
Antiherpetic	<i>Economic & Medicinal Plant Research</i> , 5: 198.
Antihistaminic	
Antihypertensive	Huang, K. C. 1993. <i>The Pharmacology of Chinese Herbs</i> . CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory 20 mg/kg	
Antimalarial IC50=>100 ug/ml	Khalid, S.A., Farouk, A., Geary**, T.G., and Jensen, J.B. 1985. Potential Antimalarial Candidates From African Plants: An In Vitro Approach Using <i>Plasmodium falciparum</i> *. <i>Journal of Ethnopharmacology</i> , 15: 201-209, 1986.
Antimelanomic	
Antimetastatic	
Antimutagenic ID50=2-5 nM	
Antinephritic	
Antinociceptive	
Antioxidant IC28=30 ppm	
Antioxidant IC50=120 uM	
Antioxidant IC54=10 uM	
Antiperoxidant IC50=10-20 uM	
Antiplatelet	
Antiproliferant 50-75 uM/l	
Antiprotozoal	
Antipurpuric	
Antiradicular 9 x quercetin	
Antispasmodic	
Antisunburn	
Antithrombogenic EC50=500 nM	
Antithyroid IC50=68 uM	
Antitrypanosomic 100 mg/kg	<i>Planta Medica</i> , 57: A44, 1991.
Antitumor	
Antitumor-Promoter	
Antiulcer	
Antivaricose	
Antiviral	
Apoptotic 75 uM/l	
Cancer-Preventive	Stitt, P. A. <i>Why George Should Eat Broccoli</i> . Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Capillariprotective	Merck 11th Edition
Catabolic	

Antihistaminic	
Antihypertensive	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Antiinflammatory 20 mg/kg	
Antimalarial IC50=>100 ug/ml	Khalid, S.A., Farouk, A., Geary**, T.G., and Jensen, J.B. 1985. Potential Antimalarial Candidates From African Plants: An In Vitro Approach Using Plasmodium falciparum*. Journal of Ethnopharmacology, 15: 201-209, 1986.
Antimelanomic	
Antimetastatic	
Antimutagenic ID50=2-5 nM	
Antinephritic	
Antinociceptive	
Antioxidant IC28=30 ppm	
Antioxidant IC50=120 uM	
Antioxidant IC54=10 uM	
Antiperoxidant IC50=10-20 uM	
Antiplatelet	
Antiproliferant 50-75 uM/l	
Antiprotozoal	
Antipurpuric	
Antiradicular 9 x quercetin	
Antispasmodic	
Antisunburn	
Antithrombogenic EC50=500 nM	
Antithyroid IC50=68 uM	
Antitrypanosomic 100 mg/kg	Planta Medica, 57: A44, 1991.
Antitumor	
Antitumor-Promoter	
Antiulcer	
Antivaricose	
Antiviral	
Apoptotic 75 uM/l	
Cancer-Preventive	Stitt, P. A. Why George Should Eat Broccoli. Dougherty Co, Milwaukee, WI, 1990, 399 pp.
Capillari-protective	Merck 11th Edition
Catabolic	
Chemopreventive	
Cytoprotective IC50=3 uM	
Estrogenic?	Economic & Medicinal Plant Research, 6: 189.
Hemostat	
Hepatomagenic 20,000 ppm (diet) rat	Phenolic Compounds in Food and Their Effects on Health. Antioxidants & Cancer Prevention. Huang, M.T., Ho, C.T. and Lee, C.Y. eds. 1992. ACS Symposium Series 507.ACS, Washington 402 pp.
Hepatoprotective 20 mg/kg rat	
Hypocholesterolemic	Huang, K. C. 1993. The Pharmacology of Chinese Herbs. CRC Press, Boca Raton, FL 388 pp.
Hypotensive	Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
Immunomodulator	
Insecticide	Keeler, R.F. and Tu, A.T. eds. 1991. Toxicology of Plant and Fungal Compounds. (Handbook of Natural Toxins Vol. 6) Marcel Dekker, Inc. NY. 665 pp.
Insectiphile	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
Juvabional	Jacobson, M., Glossary of Plant-Derived Insect Deterrents, CRC Press, Inc., Boca Raton, FL, 213 p, 1990.
Larvostat IC95=4,000-8,000 ppm diet	Lydon, J. & Duke, S., The potential of pesticides from plants, pp. 1-41 in Craker, L. & Simon, J., eds, Herbs, Spices & Medicinal Plants: Recent Advances in Botany, Horticulture, & Pharmacology, v. 4, Oryx Press, Phoenix, 1989, 267pp.
Lipoxygenase-Inhibitor IC75=2.5 mM	Oszmianski, J. and Lee, C.Y. 1990. Inhibitory Effect of Phenolics on Carotene Bleaching in Vegetables. J. Agric. Food Chem. 38: 688-690.
Mutagenic	Economic & Medicinal Plant Research, 6: 189.
Myoprotective	
Myorelaxant	Economic & Medicinal Plant Research, 6: 189.
Oviposition-Stimulant	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
PAF-Inhibitor	
Pesticide	
Protisticide	
Radioprotective	
Sunscreen	
Topoisomerase-II-Inhibitor IC50=1 ug/ml	Bernard, F. X., Sable, S., Cameron, B., Provost, J., Desnottes, J. F., Crouzet, J., Blanche, F. 1997. Glycosylated Flavones as Selective Inhibitors of Topoisomerase IV. Antimicrobial Agents & Chemotherapy, 41: 992-998.
Vasodilator	
Vasopressor	
cAMP-	Pizzorno, I.F. and Murray, M.T. 1985. A Textbook of Natural Medicine. John Bastyr College Publications, Seattle, Washington (looseleaf)

Inhibitor					
SENNIDIN-C	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
SENNOSIDE-A	Plant	--	--		*
Activities (1)					
Purgative ED50=13.5 mg/kg orl mus					
SENNOSIDES-A	Rhizome	--	--		*
SENNOSIDES-A	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
SENNOSIDES-B	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
SENNOSIDES-B	Rhizome	--	--		*
SENNOSIDES-C	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
SENNOSIDES-D	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
SENNOSIDES-E	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
SENNOSIDES-F	Root	--	--		Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
STARCH	Root	150000.0	160000.0	-0.65	*
Activities (5)					
Absorbent	Martindale's 29th				
Antidote (Iodine)	Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.				
Antinesidioblastotic	Martindale's 29th				
Emollient	Martindale's 29th				
Poultice	Martindale's 29th				
STILBENE-GLYCOSIDES	Plant	--	--		Newall, C. A., Anderson, L. A. and Phillipson, J. D. 1996. Herbal Medicine - A Guide for Health-care Professionals. The Pharmaceutical Press, London. 296pp.
VEROSTEROL?	Root	--	--		List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.